

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P03/125-do/rq	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, Item 5 below.	
International application No. PCT/EP2004/006419	International filing date (day/month/year) 15/06/2004	(Earliest) Priority Date (day/month/year) 11/07/2003
Applicant MERCK PATENT GMBH		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (See Box II).

3. **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

BENZIMIDAZOLE DERIVATIVES AS RAF KINASE INHIBITORS

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. _____

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b. none of the figures is to be published with the abstract.

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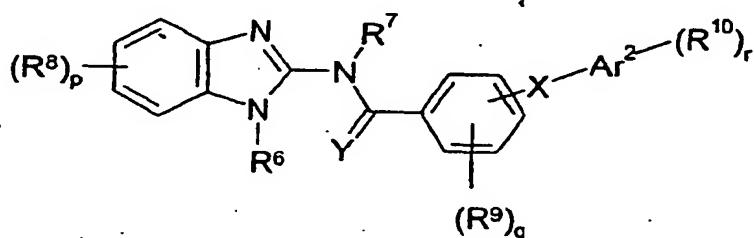
International application No.

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Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

The present invention relates to benzimidazole derivatives of formula I, the use of the compounds of formula I as inhibitors of one or more kinases, the use of the compounds of formula I for the manufacture of a pharmaceutical composition and a method of treatment, comprising administering said pharmaceutical composition to a patient.

Accordingly, the compound of Formula I or a pharmaceutically acceptable salt thereof is administered for the treatment of diseases mediated by one or more kinase pathways, preferably by the raf kinase pathway, especially cancers,



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International Application No

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61K31/4184 C07D401/12 A61K31/4439 A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BEILSTEIN Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/27819 A (MANLEY PAUL WILLIAM ; NOVARTIS AKTIENGESELLSCHAFT (CH); BRUEGGEN JOSE) 18 May 2000 (2000-05-18) examples 8.2,8.7,8.12 page 70 - page 71; claims 2-5,9 -----	1,2,6-31
Y	-----	3-5
X	WO 02/44156 A (GLAXO GROUP LTD ; WEST ROB I (GB); GLAXOSMITHKLINE K K (JP); HASEGAWA) 6 June 2002 (2002-06-06) page 3, line 23 - line 26; claims 1,2,45; examples 90,91 scheme 2 -----	1,2,6-31
Y	-----	3-5
X	WO 03/030902 A (FRENKEL ALEXANDER DAVID ; SMITH ANDREW (GB); LIVELY SARAH ELIZABETH (G) 17 April 2003 (2003-04-17) page 2, line 29 - line 31; claims 1,19,28,34,40,50,67; examples 32,33 -----	1,2,6-31
Y	-----	3-5
	-/-	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents:

- A* document defining the general state of the art which is not considered to be of particular relevance
- E* earlier document but published on or after the international filing date
- L* document which may throw doubts on priority, claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- O* document referring to an oral disclosure, use, exhibition or other means
- P* document published prior to the international filing date but later than the priority date claimed

- T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- &* document member of the same patent family

Date of the actual completion of the international search

31 August 2004

Date of mailing of the international search report

10/09/2004

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International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/21160 A (AXXIMA PHARMACEUTICALS AG ; MARSCHALL MANFRED (DE); STAMMINGER THOMAS) 29 March 2001 (2001-03-29) figure 1, p. 5/6; claims 1,11,12 -----	1,2,6-31
Y		3-5
X	WO 02/46171 A (SIGNAL PHARM INC) 13 June 2002 (2002-06-13)	1,2,6-31
Y	page 19, line 4 - line 31 page 92, line 20 page 60, line 10 - line 20 -----	3-5
X	US 4 002 623 A (KADIN SAUL BERNARD) 11 January 1977 (1977-01-11)	1,2,6-31
Y	column 1, line 9 - line 24; claim 1; examples 7,27 -----	3-5
X	US 4 011 236 A (GRIER NATHANIEL) 8 March 1977 (1977-03-08) the whole document -----	1,2
P,X	WO 2004/001059 A (BORZILLERI ROBERT M ; SQUIBB BRISTOL MYERS CO (US); BHIDE RAJEEV S (US) 31 December 2003 (2003-12-31) claims 1,7,13-17; examples 97,98 -----	1,2,6-28
P,Y		3-5
P,X	WO 2004/014369 A (AVENTIS PHARMA GMBH) 19 February 2004 (2004-02-19)	1-3,6-31
P,Y	page 37, line 1 - line 10; claims 2,10,11; example 71 -----	4,5

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International application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 12, 13 and 15-28 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

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Information on patent family members

International Application No

PCT/EP2004/006419

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		CZ 20011631 A3		17-10-2001
		EA 4701 B1		24-06-2004
		EE 200100258 A		16-12-2002
		WO 0027819 A2		18-05-2000
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Information on patent family members

International Application No

PCT/EP2004/006419

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